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QUESTIONS

IN

PRACTICAL ANATOMY,

FOR THE USE OF

THE STUDENTS

OF

St. Bartholomew's Hospital.

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*October 1844.*  
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P R E F A C E.

THESE Questions are written solely for the use of the Students at St. Bartholomew's Hospital engaged in the Dissecting Rooms, and are intended to assist in the design of the series of examinations in Practical Anatomy held regularly during the Winter Session, by supplying to each student the means of testing his own knowledge of the subject by examination of himself. Many of the single questions are so written as to require a detailed description rather than a simple answer; and it is therefore recommended that, in examining himself, the student should divide them into a series of other questions: many of these questions are also adapted to be answered in writing. The greater number of the questions are plain, and capable of being answered from careful observation and dissection; some few, however, are more difficult, and may be answered more accurately by the assistance of works which are devoted to these particular subjects. In addition to the works commonly studied on Human Anatomy, the following works and papers may be consulted with advantage, and are contained in the Hospital Library:—

Harrison.—Surgical Anatomy of the Arteries.

Swan on the Nerves.

Monro.—Description of all the Bursæ Mucosæ in the Human Body.

Lawrence.—Views of the Nose, Mouth, Larynx, and Fauces.

Longet.—Sur le Système Nerveux. 2 vols.

The articles Eye—and, Hearing, Organ of, in the Cyclopædia of Anatomy.

Soemmering.—Icones Organi Auditus Humani.

Soemmering.—Icones Oculi Humani.

On Hernia.—Lawrence on Hernia, chap. 9, 14.

On the Neck.—Burns on the Surgical Anatomy of the Head and Neck.



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BONES.

I. *Spine, Sternum, and Ribs.*

1. What bones form the Spinal Column?
2. Enumerate the component parts of a Vertebra, and afterwards describe the situation of its processes, body, notches, and foramen.
3. How many Vertebrae form the cervical, dorsal, and lumbar divisions of the Spine respectively?
4. Describe the distinguishing marks of the bodies, articular, transverse, and spinous processes, notches, laminae, and foramina of the Vertebrae of the different regions.—Mention any single sign by which the region to which any Vertebra belongs may be determined at once.
5. Where do the Blood-vessels enter the bodies of the Vertebrae?—What parts pass through the vertebral foramina and intervertebral notches?
6. Describe the peculiarities of the 1st, 2d, and 7th Cervical, of the 1st, 10th, 11th, and 12th Dorsal, and of the 5th Lumbar Vertebrae.
7. How is a Vertebra developed?—How do the first and second Cervical differ from the other Vertebrae in their mode of development?
8. State the general form of the Spine, its curvatures, and relative size in the different regions.
9. What Bones form the Walls and the upper and lower boundaries of the Chest?
10. Of how many portions is the Sternum formed,—with what bones does it articulate,—and how is it developed?
11. To what parts of the Sternum are the following muscles attached?—the Sterno Mastoid, Pectoralis Major, Triangularis Sterni, Sterno Thyroideus, and Sterno Hyoideus.
12. Describe the upper and lateral edges of the Sternum, and their connexion with the Ribs.
13. State the number of the true and false Ribs, their form, relative length, breadth, and direction.
14. Describe the body, angle, neck, head, and articulating surface of a true Rib; compare these with the same parts in the eleventh or twelfth rib, noting at the same time any of the deficient parts in the latter.
15. Describe the outer and inner surfaces, the upper and lower edges, of the Ribs, describing any large Muscles or Blood-vessels with which they are particularly connected.
16. Describe the peculiarities of the first, eleventh, and twelfth Ribs.
17. How are the Costal Cartilages connected with the Ribs and Sternum?
18. How is a Rib developed?

II. *Bones of the Head.*

19. Enumerate the Bones of the Head, and describe their situation generally.
20. Describe generally the form of the Sphenoid Bone, stating at the same time the bones with which it articulates, and the mode in which it is developed.
21. Is the Sphenoid Bone articulated with the Superior Maxillary Bone?—If so, where?
22. Describe the eminences and grooves seen on the Guttural Aspect of the Sphenoid Bone, beginning at the mesial line, and passing outwards to the Pterygoid Processes.
23. Describe the form and connexions of the Pterygoid Processes.
24. Describe the Cerebral Aspect of the Sphenoid Bone:—first, the body; secondly, the great wings; and, thirdly, the lesser wings.
25. What parts pass through the foramen spinosum, f. ovale, f. rotundum, f. opticum, and fissura sphenoidalis?
26. Describe the Occipital Aspect of the Sphenoid Bone, and the position of the Vidian and Pterygo-palatine Canals.
27. Describe the Orbital Aspect of the Sphenoid Bone, mentioning particularly its connexion with the Ethmoidal Sinuses, Cavity of the Orbit, and Palate Bones.
28. Describe the Temporal Aspect of the Sphenoid Bone.
29. Describe the edges of the Sphenoid Bone, the manner in which they are bevelled off, and the bones with which each of them articulates.
30. Describe the form and structure of the Æthmoid Bone; and enumerate the bones with which it articulates.
31. Describe the Cerebral Aspect of the Æthmoid Bone, naming at the same time the parts passing through the canals there seen.
32. Describe the Nasal or Inferior Aspect of the Bone, including the Lamina Perpendicularis, the two Superior Turbinated Bones, Superior and Middle Meatus, and the grooves for the Olfactory Nerves.
33. Describe briefly the Æthmoid Bone, as seen from before and behind.
34. Describe the Os Planum and its connexion with the other bones forming the Cavity of the Orbit.
35. What are the Sphenoidal Turbinated Bones, and with what Bone are they especially connected?—Describe their form and connexion with the surrounding parts and Spheno-palatine Foramen.
36. State the form, situation, connexions, and mode of development of the Frontal Bone.
37. Describe the Frontal Notch, Nasal Spine, and Orbital Plates, with the other parts seen on the Inferior or Orbito-æthmoidal Aspect of the Frontal Bone.
38. Describe the Anterior Aspect of the Frontal Bone, more especially the Frontal Protuberance, Superciliary Arches, Orbital Arches and Processes, and Supra-orbital Foramen.
39. Enumerate the chief parts seen on the Cerebral Aspect of the Frontal Bone.
40. Describe the edges of the Frontal Bone, and their mode of union with the surrounding bones.

41. Describe the development, general form, and situation of the Occipital Bone.
42. What parts are situated on the posterior surface of the Occipital Bone?—Name the Muscles attached to the Basilar Process, and the parts going through the Great Occipital Hole, and the Condylloid Foramina.
43. What is the form of the Occipital Condyles, and what is their direction?
44. Describe the curved lines of the Occipital Bone, and enumerate the Muscles attached between them and to their surface.
45. Enumerate the grooves, lines, &c. seen on the internal surface of the Occipital Bone.
46. What lines the inner surface of the Occipital Bone? and how are the grooves of its inner surface connected with the Cerebral Sinuses?
47. What portions of the Brain fill the different Occipital Fossæ?
48. Describe the edges of the Occipital Bone and the Jugular Foramen; state also the kind of suture between those edges and the Parietal, Mastoid portion of Temporal, Petrous portion of Temporal, and body of Sphenoid, Bones.
49. Describe the development, form, and principal divisions of the Temporal Bone.—Consider the Bone as seen from the outside, and then describe the general form and situation of the Squamous Portion, Zygoma, Mastoid Process, Glenoid Cavity, Fissura Glaseri, and External Auditory Meatus.—Name the Muscles attached to the eminences, as well as the direction of the roots of the Zygoma.
50. What is the general appearance of the Cerebral Surface of the Temporal Bone?—Name the Vessel ramifying on its Squamous Portion.
51. Describe the form and situation of the Hiatus Fallopii, Aquæductus Vestibuli, Internal Meatus, Prominence of the Superior Semi-circular Canal, and Depression for the Fifth Nerve.
52. What depressions and foramina are seen on the inner surface of the Mastoid Process?
53. What parts are seen on the under surface of the Petrous Portion of the Temporal Bone?—Where is the Eustachian Tube situated?
54. Describe the edges of the Squamous, Mastoid, and Petrous Portions, and their mode of union with the surrounding bones.
55. Describe the form, situation, and mode of development of the Parietal Bone.
56. What are the parts seen on the two surfaces of the Parietal Bone, mentioning particularly any grooves for vessels there seen?
57. Describe the edges of the Parietal Bone, and their union with the surrounding bones.

III. Bones of the Face.

58. What are the Bones of the Face?
59. What is the form of the Upper Jaw Bone?—With what bones does it articulate?

60. Describe the ascending process, the Muscles attached to it, and its connexion with the Os Unguis.
61. What elevations, foramina, and canals, are seen on the anterior and orbital surfaces?—What pass through the Infra-orbital Canal?
62. Describe the Palatine Process, Anterior Palatine Canal, and Nasal Surface of the Upper Maxillary Bone.
63. Describe the Antrum Highmori and Lachrymal Canal.
64. Describe the edges of the Upper Jaw Bone, including the Malar Tuberosity, and Anterior Nasal Spine.
65. Describe generally the form and connexions of the Palate Bone, including its relations to the Nasal and Orbital Cavities.
66. Describe the inferior surface of the Horizontal Portion, with the attachments of the Palatine Muscles.
67. Describe the ascending portion, particularly its relation to the Antrum and Inferior Turbinated Bone.
68. Describe the anterior and posterior edges of the Palate Bone, with the union between these parts and the Sphenoid and Superior Maxillary Bones.
69. Describe the Orbital and Sphenoidal Processes of the Palate Bone.
70. Describe the form and situation of the Vomer, its connexion by its edges with the surrounding bones and cartilage; enumerate the parts forming the septum of the Nose.
71. Describe the structure, form, and position of the Inferior Turbinated Bone, with its relation to the Nasal Duct, Antrum, and Nose.
72. Describe the form, direction, situation, and connexions of the Nasal Bones, as well as their relations to the Nasal Cartilages.
73. Describe the edges, surfaces, and process of the Os Unguis, its relation to the Middle Meatus, Æthmoid Cells, and Lachrymal Duct.
74. Describe the situation of the Malar Bone.
75. Describe the outer surface of the Malar Bone, and name the Muscles connected with it.
76. Describe the orbital and posterior aspects of this bone, also the edges by which it unites with the surrounding bones and enters into the formation of fossæ or fissures.
77. Describe the form and development of the Lower Jaw Bone.
78. What ridges and depressions are seen on its outer surface?—Describe especially the Foramen Mentale, and the External Oblique Line.
79. Describe the Coronoid Process, Ramus, and Condyle; name the Muscles attached to them; and describe the articulation of the Jaw with the Temporal Bone.
80. Name the chief parts seen on the internal surface of the Lower Jaw, and the Muscles attached to it.
81. What traverse the openings on the inner and outer surfaces of the Lower Jaw Bone?
82. Where are the bones of the Skull and Face united together?
83. Describe the situation of the Frontal, Squamous, Coronal, Sagittal, Lambdoid, Basilar, Spheno-temporal, Pecto-sphenoidal, and Ethmoidal Sutures.
84. Describe the Foramen Lacerum Anterius, F. Lacerum Medium, F. Lacerum Posterius.

85. What are the boundaries of the Temporal Fossa, and what bones assist in its formation?
86. Divide the Base of the Skull into three planes, separated by the Wings of Ingrassias and the Petrous Portions of the Temporal Bones; state what foramina and eminences are visible in each.
87. Describe the form and situation of the Palatine Canals.
88. Describe the direction of the Orbital Axes and Walls; name the Bones forming the Orbits, and enumerate the Canals opening into them.
89. What Bones form the Nasal Cavities?—Describe the upper, lower, and lateral boundaries of the Nose.
90. What are the Meatuses of the Nose, and how are they formed?—What parts open into them?
91. How is the Zygomatic Fossa formed?
92. How is the Spheno-maxillary Fossa formed?—What apertures and fissures are found in it?

IV. *Bones of the Pelvis.*

93. What Bones form the Pelvis, and what parts of the Skeleton are united to it?—Describe the Spines, Grooves, and Foramina on the anterior and posterior surfaces of the Sacrum, comparing them with their corresponding parts in the Spine.
94. What is the form of the Sacrum, and how does this bone differ in the two sexes?
95. Describe the lateral parts of the Sacrum, naming at the same time the Ligaments and Bones united to it.
96. Describe the apex and base of the Sacrum, stating the parts articulated to them, and the means of union.
97. What is the Sacro-vertebral Angle?
98. How is the Sacrum formed?
99. How many bones form the Coccyx?—To what parts is it united, and what important viscus is situated on its front surface?
100. Name the different parts of the Os Innominatum, their situation and common centre of union.
101. Describe the crista, spines, and inner surface of the Ilium, the Ilio-pectineal Line, the outer surface of the Ilium, the Curved Lines, and the articular surface for union with the Sacrum.
102. Describe the Body, Tuberosity, and Ramus of the Ischium.
103. Describe the Ramus, Symphysis, and Body of the Pubes.
104. Name the muscles arising from the Sacrum and Os Innominatum.
105. What ligaments are inserted into the Ischium?
106. What principal differences are observed in the Male and Female Pelvis?

V. *Bones of the Upper Extremity.*

107. What does the Scapula rest upon, and with what parts is it connected?
108. Describe the Spine of the Scapula and the Acromion.
109. What Fossæ are situated on the Posterior Surface of the Scapula?
110. Describe the Costal Surface of the Scapula.

111. Describe the Coracoid Process and Supra-scapular Notch.
112. Where is the Glenoid Cavity, and what is its use?—Describe its form, size, and depth.
113. Describe the Neck of the Scapula.
114. Enumerate the Muscles and Ligaments connected with the Scapula.
115. How is the Scapula developed?
116. Where is the Clavicle situated, with what bones is it united, and what is its use?—How is it developed?
117. Describe the body of this bone, the Muscles connected with it, the ridge for the Coraco-clavicular Ligaments, the form of the two extremities, the direction and size of their articular surfaces.
118. With what bones is the Humerus connected?—How is it developed?
119. What Muscles are connected with the three surfaces of this bone?—Describe the Bicipital Groove, and name the Muscles connected with its edges.
120. Describe the three ridges of the Humerus, and name the Muscles connected with them.
121. Describe the Head of the Humerus, the Tuberosities, and Neck. Name the Muscles inserted into this part.
122. Describe the Internal and External Condyles, and name the Muscles connected with them.
123. Describe the Radial Head, Ulnar Pulley, and Fossæ on the lower end of the Humerus.
124. What bones does the Radius articulate with?—How is it developed?
125. Describe the anterior, outer, and posterior surfaces of the Radius, naming, at the same time, the Muscles connected with them.
126. What ridge is visible on the front of the Radius, and what are the Muscles inserted into it?
127. Describe accurately the head, neck, and tubercle of the Radius.
128. Describe the lower end of the Radius, the divisions of its articular surface, and the grooves on its posterior surface.
129. Describe the situation, connexions, and development of the Ulna.
130. Describe the surfaces and edges of the ulna, and name the Muscles attached to it.
131. Describe the Olecranon, Coronoid Process, and Sigmoid Cavities, and the lower extremity of the Ulna.
132. Name the Carpal Bones in their order, describe the general form of each bone, and mention the bones with which each bone articulates.
133. Describe particularly any peculiarities of the Pisiform, Trapezium, and Uneiform Bones.
134. Describe generally the Metacarpal Bones, their articulations with each other and with the Carpus.
135. State the peculiarity of the Metacarpal Bone of the Thumb.
136. Describe the Phalanges, and mention the distinctive marks of a first, second, and third Phalanx.
137. How many Phalanges has the Thumb?

VI. Bones of the Lower Extremity.

138. Describe the situation, direction, and form of the Femur.—How is it developed?

139. Describe the Linea Aspera, and its bifurcations ; name the Muscles attached to it, and to the front and lateral surfaces of the Femur.
140. Describe the head and neck of the Femur ; name the muscles attached to the Trochanters and Intertrochanteric Lines, and Digital Fossa.
141. Describe the Condyles of the Femur, the Articular Surface, the groove for the Popliteus, and any bony elevations here situated for the attachment of muscles.
142. Name the muscles proceeding from the trunk to the Femur, and from the Femur to the Leg.
143. Describe the two surfaces, the upper and lower borders, and the two edges of the Patella.
144. Name the muscles and ligaments connected with the Patella, the form and size of its articular surface, and the marks to distinguish the Patellæ of the two sides.
145. How is the Patella developed ?
146. Describe the relations of the two bones of the leg to each other, to the knee and ankle-joints.
147. Describe the surfaces of the shaft of the Tibia ; the form of its three edges.
148. Name the muscles connected with this bone, and the points from which they arise.
149. Describe the two extremities of the Tibia, the articular surfaces, especially their relative size, depth, and form.
150. Describe the oblique line of the Tibia, and the muscles connected to it.
151. Describe the three surfaces of the Fibula, the lines separating them, as well as the line separating the internal surface into two portions.
152. Describe the upper and lower extremities of the Fibula, and the ligaments attached to it.
153. Name the bones of the Tarsus, and enumerate the bones with which each of them articulates.
154. Describe the general form of each of the Tarsal Bones.
155. Describe accurately the articular surfaces of the Astragalus, the relation of them to the Ankle, Scaphoid Bone, and Sole of the Foot.
156. Name the points at which Tendons are inserted into the Tarsal Bones.
157. Describe the general characters of the Metatarsal Bones, and their connexion with the Tarsus, and with each other.
158. Describe the Phalanges of the Toes.
159. Describe the groove for the Peroneus Longus.
160. On what points does the arch of the Foot rest ?
161. What Sesamoid Bones are found in the Foot ?

VII. *Teeth.*

162. How many Teeth are there, and into what classes are they divisible ?

163. Into what parts is a Tooth generally divided?
 164. Describe the number and distinctive characters of the three classes of Teeth.
 165. With what bony canals do the sockets of the Teeth communicate?
 166. Of what structures is each tooth composed, and in what relation to each other are they placed?
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JOINTS.

1. What are the Ligaments of the Lower Jaw?
2. Describe the Lateral Ligaments, and their relations to any particular parts.
3. What additional structure is found in this articulation besides the Ligaments, and with what Muscle is it connected?
4. What is the Stylo-maxillary Ligament, and with what Muscle is it especially connected?—What is the Pterygo-maxillary Ligament?
5. How many Synovial Membranes are found in the Joint of the Lower Jaw?
6. Describe the connexions of the Stylo-hyoid Ligament.
7. Describe the Intervertebral Substances, stating the appearance which they present, and their degree as well as kind of adhesion to the parts with which they are in contact.—Between which vertebræ are they wanting?
8. Describe the two great Long Ligaments of the Spine; next, those uniting the Articular Processes together; then, those connecting the Spines of the Vertebræ; and lastly, those situated between the Laminæ of the Vertebræ.
9. Describe the Ligaments uniting the Occiput, Atlas, and Axis, to each other and together.
10. How are the Sacrum and Coccyx connected to each other?
11. Describe the two Ligaments connecting the heads of the Ribs to the bodies of the Vertebræ, and those uniting the tubercles of the Ribs to the Transverse Processes.
12. How are the Ribs connected with the Sternum?
13. Which Ribs differ from the rest in their manner of union with the Spine and Sternum?
14. Describe the Ligaments connecting the Lumbar Vertebræ and Sacrum to the Ilium, and, next, those uniting the Sacrum and Coccyx to the Spine and Tuberosity of the Ischium.
15. Describe the Symphysis Pubis; the form of the articular surfaces; the substance intervening between them; and the ligaments around them.
16. Describe, in the same way, the Sacro-iliae Articulation.
17. How is the Pudic Artery connected with the Ligaments of the Pelvis?—How is the Vertebral Artery in relation with any of the Ligaments of the Spine?
18. What is the Obturator Ligament?
19. How is the Clavicle connected with the Sternum, with the opposite Clavicle, and with the first Rib?

20. Describe the Fibro-cartilage of the Sterno-clavicular Joint.
21. What Ligaments connect the Clavicle to the Scapula?
22. Describe accurately the form and situation of the Conoid and Trapezoid Ligaments.—Does the Clavicle ever touch the Coracoid Process?
23. Describe the situation of the Supra-seapular and Coraco-acromial Ligaments, with the relation of the former to the Supra-seapular Vessels and Nerve, of the latter to the Supra-spinatus Muscle.
24. Describe the Capsule and Synovial Membrane of the Shoulder-joint, with their relations to the tendons of the Subscapularis and Biceps Muscles.
25. What is the Coraco-humeral Ligament?
26. Describe the Glenoid Ligament, and its relations to the tendon of the Biceps.
27. What Ligaments connect the proximal ends of the Radius and Ulna?
28. Describe the Annular Ligament of the Radius.
29. Describe the Anterior, Posterior, and Lateral Ligaments of the Elbow-joint.
30. Describe the Synovial Membrane of the Elbow-joint.
31. Describe the Interosseous and Round Ligaments of the Fore-arm.
32. How is the Triangular Fibro-cartilage connected with the Radius and Ulna, and what are the reflexions of the Synovial Membrane above and below the Fibro-cartilage?
33. How are the Carpal Bones connected to each other?
34. How is the Carpus connected above with the lower extremities of the Radius and Ulna, and below with the Metacarpal Bones?
35. How are the Metacarpal Bones connected together?
36. Describe the Joints between the Phalanges of a Finger.
37. Describe the Ligaments of the Hip-joint; enumerating, at the same time, the Muscles in contact with the Capsule.
38. What is the Gland of Clopton Havers?—Describe accurately the form and attachments of the Ligamentum Teres.
39. What Tendon is especially connected with the Hip-joint?
40. What is the Ilio-femoral Ligament?
41. Describe the Lateral Ligaments of the Knee-joint, and enumerate the Tendons with which they are especially connected.
42. What Ligaments are situated in front of and behind the Knee-joint, and with what Muscles are they connected?
43. Describe the Crucial Ligaments and the Semilunar Cartilages.
44. Trace the Synovial Membrane of the Knee-joint over the parts which it covers; mentioning the height to which it ascends on the front of the Thigh, and the folds which it forms.
45. Describe the Ligaments connecting the Tibia and Fibula together.
46. What Ligaments unite the Bones of the Leg to the Tarsus?
47. How are the Astragalus and Os Calcis united together?
48. Describe the Calcaneo-scaphoid and Calcaneo-cuboid Ligaments.
49. Describe the Ligaments connecting the Cuboid, Scaphoid, and Cuneiform Bones together.
50. How are the Metatarsal Bones connected together, and to the Tarsus?
51. Describe the Ligaments of the Joints of a Toe.

MUSCLES.

1. What muscles of the Back are exposed by removing the Skin?
2. Describe the appearance and form of the muscles of the Back passing to the Humerus and Scapula, and state the parts of these bones to which they are attached.
3. State the number of Spinous Processes with which the Trapezius, Latissimus Dorsi, Rhomboidei, and Levator Anguli Scapulæ, are connected.
4. When the above-mentioned muscles have been removed, what parts are brought into view?
5. Describe the connexions of the Fascia of the Back with the Spine and Abdominal Muscles.
6. Describe the attachments of the Splenius and Complexus Muscles, and enumerate the parts by which they are covered.
7. Describe the Sacro-lumbalis, Musculus Accessorius, and Cervicalis Ascendens; then, the Longissimus Dorsi, Transversalis Colli, and Trachelo-mastoid.
8. Describe the deep-seated muscles situated in the grooves between the Spines and Transverse Processes.
9. Describe the Recti Postici and Obliqui Muscles.—Mention, at the same time, their relation to the Occipital Artery, and Suboccipital and Great Occipital Nerves.
10. Describe the Occipito-frontalis and Pyramidalis Nasi Muscles, together with the Epicranial Aponeurosis.
11. What are the attachments and connexions of the three muscles of the Ear?
12. Describe the Orbicularis Oris, and enumerate the muscles with which it is connected.
13. Describe the muscles elevating the Upper Lip and angles of the Mouth.
14. Describe the muscles depressing the Lower Lip and angles of the Mouth.
15. What muscles arise immediately above and below the Infra-orbital Foramen?
16. Describe the Buccinator Muscle; stating especially its relations to the Superior Constrictor of the Pharynx, Parotid Duct, and Masseter Muscle.
17. Describe the Temporal, Pterygoid, and Masseter Muscles.
18. Describe the three muscles arising from the Styloid Process.
19. Describe the Tensor and Levator Palati Muscles, as well as the Azygos Uvulæ, stating any relation which these muscles have to the Superior Constrictor and Eustachian Tube.
20. Describe the muscular fibres found in the Palatine Arches.
21. Describe the Constrictors of the Pharynx, with their relations to the Larynx, Pterygoid Processes, Lower Jaw, Buccinator and Stylo-pharyngeus Muscles.
22. Describe the Platysma Myoides.

23. Describe the appearance and connexions of the Cervical Fascia; stating the parts with which it is connected, and for which it forms sheaths.
24. Describe the attachments and connexions of the muscles passing from the Chest and Scapula to the Os Hyoides and Larynx.
25. Describe the Thyro-hyoideus Muscle.
26. Describe the muscles passing to the Lower Jaw and Tongue from the Os Hyoides.
27. Describe the Genio-hyo-glossus Muscle.
28. Describe the Intercostal Muscles.—Where are these muscles wanting, and how are they connected with the Intercostal Vessels?
29. How is the Triangularis Sterni Muscle exposed?—Describe this muscle, and its relations to the Internal Mammary Vessels.
30. Describe the Levatores Costarum.
31. Enumerate the muscles in front and on the sides of the abdomen; stating their form, direction, and relations to each other.
32. Describe the External Oblique Muscle, the Crural Arch, and the External Inguinal Ring.
33. Describe the Internal Oblique and Transversalis Muscles, the Sheath of the Rectus, and the Internal Inguinal Ring.
34. Describe the Rectus and Pyramidalis Muscles.
35. Where is the Diaphragm situated?—Enumerate the principal organs with which it lies in contact, and the parts from which it takes its origin.
36. What parts pass through the Diaphragm?
37. Describe the Quadratus Lumborum, the Psoas Major and Minor, and Iliacus Internus Muscles.
38. What Bursæ are found in connexion with the Iliacus Internus Muscle?
39. What are the relations of the Psoæ and Quadrati Lumborum to each other?—Are any of these muscles ever wanting?
40. What are the muscles of the Perinæum, and at what point are they connected to each other?
41. Describe the muscles connected with the Bulb and Corpora Cavernosa.
42. Describe the Transversus Perinei and Compressor Urethræ Muscles.
43. How do any of the muscles of the Perineum differ in the two Sexes?
44. Describe the situation and appearance of the Constrictor Vaginæ.
45. Describe the Levator Ani, Coccygeus, and Sphincter Ani.
46. Describe accurately the relations of the Sphincter Ani Internus and Externus to each other.
47. Describe the Triangular Ligament and Perineal Fascia.
48. Describe the Pelvic and Obturator Fasciæ.
49. What muscles are found on the front of the Chest, passing to the Humerus, Clavicle, and Scapula?—Describe their attachments and relations to each other.
50. What muscles arise from the Coracoid Process?
51. Describe the attachments of the Serratus Magnus, its form, and relations to the surrounding parts.
52. Describe the Fascia of the Upper Extremity; mentioning the muscles with which it is connected, and the parts in which it is particularly strong.

53. What muscles are inserted into the Great Tuberosity of the Humerus?—Describe their form, attachments, and relations to each other.
54. Where are the Teres Major and Subscapularis inserted?—Describe their origin, and relations to the surrounding muscles.
55. Describe the Biceps, Brachialis Anticus, and Coraco-brachialis Muscles.
56. Describe the Triceps Extensor Cubiti; mentioning particularly its relations to the Musculo-spiral Nerve and Teres Major Muscle.
57. What muscles arise from the Internal Condyle of the Humerus?—Describe their course, relations, and termination.
58. Describe the Flexor Profundus Digitalium, and its connexion with the Flexor Sublimis.—Describe also the Lumbricales.
59. Describe the Anconeus and two Supinator muscles.—What parts are in relation with the Supinator Radii Brevis?
60. Describe the two remaining muscles on the front of the Fore-arm.
61. Describe the two Extensores Carpi Radiales; also the three other Extensor Muscles passing from the outer Condyle to the Hand.
62. Describe the Extensor Muscles of the Thumb and Index Finger which arise on the back of the Fore-arm.
63. Describe the relations of the Tendons, as they pass over the back of the Wrist Joint.
64. What Muscles form the ball of the Thumb?—Describe their origin and insertion, mentioning their exact relation to the Sesamoid Bones and Metacarpal Bone of the Thumb.
65. Describe the Palmaris Brevis Muscle.
66. Describe the three small muscles of the Little Finger.
67. Describe the Interossei Muscles.
68. Mention any particular Bursæ near the Shoulder and Elbow Joints exclusive of those immediately under the Skin.
69. What muscle of the Thumb is placed most superficially?—How is the Adductor Pollicis brought into view?
70. Describe the Gluteus Maximus.
71. What muscles, passing from and out of the Pelvis, are exposed on reflecting the Gluteus Maximus?—Describe their origin and points of insertion into the upper part of the Femur.
72. Describe exactly the course and relations of the Obturator Internus Muscle.
73. What are the relations of the Piriformis Muscle to the Nerves and Vessels outside the Pelvis?
74. What large Bursæ are found between the tendons of the Glutei Muscles and the upper part of the Femur?
75. Describe the Fascia of the Thigh, with its relations to the Tensor Vaginæ Femoris, Sartorius, and Gluteus Maximus Muscles.
76. Describe the Sartorius and Tensor Vaginæ Femoris Muscles.
77. Describe the Extensor Muscles of the Thigh, their situation, and relations to each other.
78. Is there any space beneath the Extensor Muscles of the Thigh in which they do not arise from the Femur?
79. Describe the three Adductor Muscles of the Thigh and the Pectineus in the order in which they are exposed by dissection from before backwards.

80. Where are the Foramina for the passage of vessels through the Adductor Vessels of the Thigh situated?
81. Describe the Flexor Muscles of the Leg, their relations to each, and especially to the Popliteal space.
82. Describe the Gracilis Muscle.
83. Describe the relations of the tendons on the inner side of the Knee-joint.
84. Describe the Peronei Muscles, mentioning particularly the course of the tendon of the Peroneus Longus.
85. Describe the muscles attached to the Tendo-Achillis, their relations to each other and relative size; as well as the means by which they are separated from each other.
86. What are the three deep-seated Muscles on the back of the Leg?—Describe their origin and insertion, with the exact relations of the parts behind the Inner Ankle.
87. Describe the Fascia of the Leg and of the Sole of the Foot.
88. Describe the three superficial muscles of the Sole of the Foot, together with the Lumbricales.
89. Describe the Musculus Accessorius.
90. Describe the Muscles of the Sole of the Foot belonging to the Great and Little Toes.—To what muscle does the Transversus Pedis especially belong?
91. With which muscles are the Sesamoid Bones of the Great Toe connected?
92. Describe the muscles on the Front of the Leg, mentioning their relations to each other and to the Great Vessels.
93. Describe the Flexor Brevis Digitorum, especially its relation to the Great Toe.
94. Describe the Interossei, and compare them with those of the Hand.
95. What muscles of the Leg run behind the two Ankles?
96. Compare the insertions of the Tibialis Anticus and Posticus.
97. With how many muscles is the Musculus Accessorius connected?
98. What Tendon runs in a groove of the Astragalus?

THE HEART, ARTERIES, VEINS, AND ABSORBENTS.

1. Describe the situations and connexions of the Pericardium to the surrounding parts, the Heart and the Great Vessels.
2. What are the chief divisions of the Heart?
3. What Vessels and Nerves are distributed to the Heart?
4. What Veins open into the Right Auricle?
5. Describe the Eustachian Valve, the Fossa Ovalis, the Apertures of the Venæ Thebesii, the Tuberculum Loweri, and Right Auriculo-Ventricular Opening.
6. Describe the Left Auricle generally, and its relations to the Right.
7. Describe the common characters of the Two Ventricles, and the points of difference.

8. Describe the Aortic and Pulmonic Valves.
9. Describe the Left Auriculo-Ventricular Opening, and its Connexion with the Aortic Opening.
10. Enumerate the Vessels opening into and passing out of the various cavities of the Heart, beginning with the Right Auricle.
11. To what points on the exterior of the Chest do the Aortic and Pulmonic Valves and the Apex of the Heart correspond.
12. Describe the Arch of the Aorta, and its relation to surrounding parts.
13. Where and what is the Ductus Arteriosus, and with what Nerve is it in close contact?
14. What branches are given from the Aorta? State some of the chief variations from the usual arrangement.
15. Describe the course and relations of the Arteria Innominata.
16. How does the Left Carotid Artery differ from the Right?
17. Describe the relations of the Left Carotid Artery in the Chest, and then the common characters of the two Carotid Arteries.
18. How are the Inferior Thyroid Arteries, the Descendens Noni, Par Vagum, and Sympathetic Nerves, the Lobes of the Thyroid Glands, and Omo-hyoid Muscles, connected with the Common Carotid Arteries?
19. Are any small branches given off from the Common Carotid Artery?
20. Describe the division of the Carotid Artery, and the relations of its two great branches.
21. What are the branches of the External Carotid Artery?
22. Describe the course and divisions of the three large branches of the external Carotid Artery which pass forwards.
23. What parts does the Hyoglossus Muscle separate?
24. Do the branches of the Arteries of the Tongue and Thyroid Gland communicate?
25. How are the Facial Artery and Veins related to each other on the Face?
26. What artery sends a branch to the Carotid Sheath?
27. Describe the course of the Mastoid, Occipital, Posterior Auris, and Ascending Pharyngeal Arteries.
28. Describe the Temporal and Transverse Facial Arteries.
29. What does the Transverse Facial Artery accompany?
30. Describe the Course of the Internal Maxillary, and enumerate its branches and the parts which each supplies.
31. Describe the Anterior and Middle Meningeal Arteries.
32. What is the direction of the Internal Carotid Artery through the Temporal Bone?
33. Describe the parts of the Vertebral and Internal Carotid Arteries contained within the cavity of the Skull, their communications, and the branches distributed to the Brain.
34. How do the Subclavian Arteries differ from each other?
35. Describe the Subclavian Artery, especially its relation to the first Rib, the Scalenus Anticus Muscle, and the Brachial Plexus of Nerves.
36. What are the branches of the Subclavian Artery, and from what parts of the Vessel are they respectively given off?

37. Describe the course of the Vertebral Artery to the Foramen Occipitale.
38. Describe the Thyroid Axis and its branches, stating the relative size and importance of its branches.
39. Are the branches of the Thyroid Axis liable to much variation?
40. Describe the branches of the Subclavian Artery given off behind the Scalenus Anticus Muscle.
41. Describe the course of the Internal Mammary Artery, its communication with the Epigastric and Intercostal Arteries, as well as its relation to the Triangularis Sterni Muscle.
42. Describe the Axillary Artery, stating its directions and relations.
43. Where are the limits of the Subclavian, Axillary, and Brachial Arteries, or, in other words, at what point does the same trunk receive these different names?
44. What are the branches of the Axillary Artery?
45. Describe accurately the Arterial Branches round the Scapula.
46. What Artery is in relation with the Vena Cephalica?
47. Describe the course and relations of the Brachial Artery, stating particularly its relations to the branches of the Brachial Plexus.
48. What are the Branches of the Brachial Artery?
49. What Arteries accompany the Circumflex, Ulnar, and Musculo-spiral Nerves?
50. Describe the course and relations of the two branches of the Brachial Artery from the Elbow to the lower edge of the Annular Ligament, stating particularly their depth from the surface, relations to the Muscles and three principal Nerves, as well as their relative size.
51. What is the Interosseous Artery a branch of?—Describe its course, branches, and termination.
52. What Arteries pierce the Interosseous Ligament?—What artery passes over the Annular Ligament?
53. What are the branches of the Radial and Ulnar Arteries in the Fore-arm, in addition to the Interosseous Artery?
54. Describe the Radial Artery from the lower part of the Fore-arm to its termination.
55. Describe the two Arterial Palmar Arches, as well as the other arteries of the Hand.
56. Describe the communications:—1st, Between the Carotid and Subclavian; 2d, Between the Subclavian and Axillary; 3d, Between the Brachial and Axillary; 4th, The Anastomoses round the Elbow-joint and Wrist-joints; 5th, The Anastomosis in the Palm of the Hand.
57. Describe the course and relations of the Aorta, from the Ductus Arteriosus to the division into the Iliac Arteries.
58. Describe the Oesophageal and Intercostal Arteries.
59. Name the branches of the Abdominal Aorta.
60. Describe the branches of the Abdominal Aorta not distributed to the Alimentary Canal.
61. Describe the relations of the Ureter to the Renal and Iliac Vessels.
62. How are the deep Muscles of the Spine supplied with Blood?
63. With what vessels does the Arteria Sacri Media anastomose?

64. Describe the branches of the Abdominal Aorta distributed to the Spleen, Pancreas, Liver, and Intestinal Canal.
65. How do the branches of the Cæliac Axis and Mesenteric Arteries communicate severally with each other?
66. Name the arteries supplying the Intestinal Canal, from the Cardiac Orifice of the Stomach to the upper part of the Rectum.
67. What arteries have particular relations to the following parts?—The second portion of the Duodenum, the upper edge of the Pancreas, the under surface of the Pancreas, the middle of the Sacrum, the Crura of the Diaphragm, and the Foramen of Winslow?
68. Where does the Aorta divide into its two great branches?
69. Describe the course and relation of the Common Iliac Artery.—Do the two Iliac Arteries differ from each other in any respects?
70. Describe the course of the External Iliac Artery, and its branches?
71. What are the exact relations of the Epigastric Artery to the Internal Inguinal and Femoral Rings, to the Vas Deferens and Rectus Abdominis Muscle?
72. Mention any important variety of the Epigastric Artery frequently met with.
73. How does the Circumflexa Ilii Artery get between the Internal Oblique and Transversus Abdominis Muscles?
74. Describe the course and relations of the Internal Iliac Artery, naming its branches.
75. Describe the branches of the Internal Iliac Artery distributed to the Pelvic Viscera.
76. Describe the Obturator, the Gluteal, Sciatic, and Pudic Arteries.
77. What parts must be removed to bring into view from behind the Gluteal and Sciatic Arteries?—To what variety are these two vessels particularly liable?
78. Which are the branches of the Pudic Artery deserving especial notice?
79. Describe accurately the relations of the Artery of the Bulb.
80. How is the Bladder supplied with Arteries?
81. What is the Umbilical Artery?
82. What important variety of the Pudic Artery is occasionally met with?
83. Describe the course and relations of the Femoral Artery, stating especially its relations to the Sartorius and Abductor Magnus Muscles.
84. What are the branches of the Femoral Artery?—What is the exact point of origin of the Arteria Profunda Femoris?
85. Describe the course of the Circumflex and Perforating Arteries.
86. Describe the Popliteal Artery, its exact relation and branches.
87. How deep is the Popliteal Artery situated?—Are any absorbent glands situated near it?
88. What arteries communicate round the Knee-joint?
89. How are the Knee and Hip-joints supplied with blood?
90. What are the two main branches of the Popliteal Artery?
91. What parts must be removed to bring into view the Posterior Tibial and Peroneal Arteries?
92. Describe the course and relations of the Posterior Tibial and Peroneal Arteries.

93. Describe the relation of the Parts behind the Inner Ankle.
94. What is the exact relation of the Fibula to the Peroneal Artery?
95. Describe the two Plantar Arteries.
96. Describe the course and relations of the Anterior Tibial Artery.
97. What is the exact relation of the Anterior Tibial Artery to the tendon of the Extensor Longus Pollicis?
98. Describe the Arteries on the upper surface of the Foot.
99. How do the Arteries on the upper and lower surface of the Foot communicate together?
100. What veins form the External Jugular Vein?
101. Where is the Anterior Jugular Vein situated? What form it?
102. What veins besides the Axillary open into the Subclavian Vein?
103. Where do the Sinuses of the Brain empty their blood?
104. Describe the course and relations of the Internal Jugular Vein.
105. What veins open into the Internal Jugular Vein?
106. Describe the two Venæ Innominatæ and Vena Cava Superior, their course and relations, as well as the veins opening into them.
107. How do the two Venæ Innominatæ differ from each other?
108. Where do the Bronchial Veins empty their blood?
109. Describe the Cutaneous Veins of the Fore-arm, their chief communication with the deep veins, and their exact relation to the parts in front of the Elbow-joint.
110. Describe the Veins of the Upper Arm and Axilla.
111. What nerve accompanies the Basilic Vein?
112. What Veins form the Inferior Cava?
113. Describe the course of the Veins from the Foot to the Groin, mentioning first the superficial and then the deep veins.
114. Describe particularly the anatomy of the Veins at and near the Saphenous Opening.
115. Describe the Iliac Veins, and the branches opening into them.
116. Describe the situation and relations of the Vena Portæ, and name the branches which form it and which open into them.
117. Enumerate the different Abdominal and Pelvic Viscera in order, stating at the same time the particular system of veins to which the blood of the different viscera is returned.
118. Where are the branches of the Vena Cava and Vena Portæ said to communicate?
119. Describe the course and relations of the Vena Azygos.
120. Describe the situation of the Absorbents and their Glands for the lower extremity, mentioning their relations to the superficial and deep trunks, as well as to the absorbents of the loins and surface of the abdomen.
121. Describe the situation of the Absorbents and their Glands in the Abdomen, mentioning first the situations in which large masses of glands are found, and then the parts with which they are connected.
122. Describe the situation and connections of the Thoracic Duct.
123. Describe the Absorbents and their Glands in the Arm and Neck.
124. Is there any vessel corresponding to the Thoracic Duct on the right side?

BRAIN AND SPINAL CORD, WITH THEIR MEMBRANES.

1. What are the Membranes of the Brain and Cord?—Describe their relation to each other, their form and appearance, as well as their mode of connection with the nervous substance.
2. Describe the Falx Major and Tentorium.—What parts do they separate?
3. Describe the Ligamentum Denticulatum, its form, situation, and relation to the roots of the nerves?
4. How is the Dura Mater supplied with arteries and nerves?
5. What are the Sinuses of the Brain?—Describe their structure, situation, and relation to the smaller Cerebral Veins.
6. Describe the Anterior, Middle, and Posterior Meningeal Arteries, stating particularly the foramina through which they enter the Skull, and the arteries from which they are given off.
7. What are the chief Cerebral Sinuses, and how do they communicate with each other?
8. Describe the Spinal Venous Plexus, stating its communications with the deep-seated veins of the chest, abdomen, and back.
9. Opposite to which vertebra does the Spinal Cord terminate?
10. Describe the form, size, and appearance of the cord.—How many fissures are found upon it?—What are they filled by, and where are they situated?
11. Describe the appearances presented by a transverse section of the Cord.
12. How many Spinal Nerves are found in each region, and how are they connected with the Cord?
13. Describe the form and situation of the Medulla Oblongata, stating the particular eminences found upon it.
14. Describe the Pons Varolii, Crura Cerebri, and Crura Cerebelli.
15. How are the Cerebrum, Cerebellum, Pons, Medulla Oblongata, and Cord, severally connected together?
16. Describe the appearance of the upper surface of the Brain, its sulci, fissures, and convolutions.
17. How are the Pia Mater and Arachnoid related to each sulcus, and to the separations between the lobes?
18. Enumerate the parts met with in the mesial line of the under surface of the Brain, commencing in front, and terminating at the Pons Varolii.
19. What are the following parts especially connected with in the substance of the Brain, Corpora Albicantia, Lamina Cinerea, and Commissure of the Optic Nerves?
20. What are the parts enclosed within the Circle of Willis?
21. Describe the Fissure of Sylvius, enumerating the parts contained in it.
22. What parts does each Crus Cerebri cross, and come into relation with?
23. State the points at which the different Cerebral Nerves are seen passing out of the Brain.

24. Describe the Tractus Opticus, and Optic Commissure.
 25. State the principal points at which the membranes are separated from the base of the Brain by free spaces, as well as the principal points at which arteries pierce the base of the Brain.
 26. Where does the Descending Horn of the Lateral Ventricle pierce the base of the Brain, and how are the Arachnoid and Pia Mater disposed?
 27. What is the Velum? Describe the vessels seen in it, their source and termination.
 28. Describe the Corpus Callosum, its form, situation, and relations to the hemispheres of the Brain.—State the situation of the Raphe and Nerves of Lancisi.
 29. Where are the five Ventricles of the Brain situated, and how do some of them communicate?
 30. How are the Lateral Ventricles separated from each other?
 31. Describe the Lateral Ventricles, their divisions, form, and size.
 32. Describe the Corpus Striatum, Thalamus Opticus, Tænia Semi-circularis, and Corpora Geniculata.
 33. Where are the two Hippocampi situated?
 34. Describe the Fornix, Tænia Hippocampi, and Lyra.
 35. Where are the three Commissures situated?
 36. Describe the third and fourth Ventricles, and the boundaries of the passage between them.
 37. Describe the Corpora Quadrigemina, the Pineal Gland, and Valve of Vieussens, with their connections to the surrounding parts.
 38. Describe the parts seen on the Cerebellum, its situation and form, with the difference between its external characters and those of the Cerebrum.
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CEREBRAL NERVES AND GANGLIA.

1. Enumerate the Cerebral Nerves.—Arrange the Cerebral Nerves according to the foramina by which they leave the skull.
2. Describe the origins of the Olfactory, Optic, and Auditory Nerves separately; next those of the Ganglionic Portion of the Fifth, the Glosso-Pharyngeal, and Pneumo-Gastric; and, lastly, of the Non-Ganglionic Portion of the Fifth, the Third, the Fourth, the Sixth, the Portio Dura, the Accessory, and the Hypo-Glossal.
3. Arrange the Cerebral Nerves according to their Functions as Nerves of Common Sensation, of Motion, and of Special Sense.
4. Where is the origin of the Olfactory Nerve found at the base of the Brain? and with what artery is it closely connected?
5. Describe the course and form of the Olfactory Nerve in the Skull, mentioning also its relation to the sulci of the Brain.
6. Describe the course of the Olfactory Nerve in the Nose, stating those parts of the nasal mucous membrane to which it is chiefly distributed.
7. Does the Olfactory communicate with any Cerebral Nerve?

8. Describe the course of the Optic Nerve in the Orbit to the back of the Sclerotic, mentioning its relation to the Ophthalmic Artery and Arteria Centralis Retinæ.
9. Describe the course of the Auditory Nerve from its origin, as far as the cribriform plate of the Internal Auditory Meatus.
10. Describe the Gasserian Ganglion, as well as the course of the Fifth Pair of Nerves within the skull.
11. What are the three divisions of the Fifth Pair of Nerves?
12. Describe the course of the Ophthalmic division, stating the parts to which it is distributed, and the nerves with which it communicates.
13. Are the nerves supplying the muscles of the Eye connected with the Fifth Pair?
14. What branch of the first division of the Fifth communicates with the 2d and 3d divisions of the same nerve?
15. What parts are supplied by the 2d division of the Fifth Pair, and where is this nerve finally distributed?
16. How is the Antrum supplied with Nerves?
17. How does the 3d division of the Fifth Pair differ in a marked manner from the 1st and 2d?
18. What are the branches of the 3d division of the 5th Pair?—In what parts are the Anterior Auricular, Inferior Dental, and Lingual Branches distributed?
19. Describe the distribution of the muscular branches of the 3d division of the 5th Pair.
20. Describe the exact distribution of the Buccal and Temporal Nerves.
21. Describe the course and distribution of the Lingual Nerve, with its relations to the Pterygoid Muscles, the Tonsil, Submaxillary Gland, and Papillæ of the Tongue.
22. Describe the relations of the Glosso-Pharyngeal Nerve at the Foramen Lacerum.
23. Where are the Ganglia of Andersch and Ehrenritter situated?—Describe the course of the branch of the Ganglion of Andersch, (commonly called the nerve of Jacobson,) and state the manner in which it communicates with the Facial and Sympathetic Nerves, as well as with the Otic and Spheno-Palatine Ganglia.
24. Have the Facial, Pneumo-Gastric, and Sympathetic, any communications with the Glosso-Pharyngeal Nerve? if so, where are they found?
25. To what parts is the Glosso-Pharyngeal Nerve distributed?
26. Describe the course of the Pneumo-Gastric and Accessory Nerves to the lower part of the Foramen Lacerum?
27. Where is the Ganglion of the Pneumo-Gastric situated, and in what manner is the Accessory connected with the Pneumo-Gastric Nerve?
28. How is the Facial connected in any way with the Pneumo-Gastric Nerve?
29. Describe the distribution of the Accessory Nerve, and the manner in which the Pharyngeal Plexus is formed.
30. Describe the distribution of the Pharyngeal, Cardiac, and Superior Laryngeal Branches of the Par Vagus, stating exactly the distribution and communications of the Superior Laryngeal Nerve.
31. Describe the Recurrent Nerve and its branches.

32. Describe the course of the Par Vagus through the Neck, Chest, and Abdomen, mentioning particularly the relations of the nerve to the large vessels, Œsophagus, Bronchi, and Ductus Arteriosus.
33. Describe briefly the branches given off from the Par Vagus in the Chest and Abdomen.
34. Describe the relations of the nerves in the Cavernous Sinus, as well as their communications with the Sympathetic Nerve.—Describe the course and distribution of the third, fourth, and sixth nerves in the cavity of the Orbit.
35. Describe the course of the Facial Nerve through the Temporal Bone, the branches given off by it, and its communications with the Spheno-Palatine and Otic Ganglia, as well as with the Glosso-Pharyngeal and Pneumo-Gastric Nerves.
36. What are the branches given off from the Facial Nerve previous to the formation of the Pes Anserinus?
37. Describe the distribution of the Cervico-Facial and Temporo-Facial divisions of the Facial Nerve.
38. Describe the course of the Ninth Nerve, and its communications before the formation of the Ramus Descendens Noni.
39. Describe the distribution of the Ramus Descendens Noni, and of the terminal branches of the Ninth Nerve.
40. What nerves supply—1st, the Mylohyoid and anterior belly of the Digastricus; 2d, the posterior belly of the Digastricus, the Stylo-Hyoid and Stylo-Pharyngeus; 3d, the Hyo-Glossus, Stylo-Glossus, Genio-Hyoideus, Genio-Glossus, Fibres of the Tongue, Thyro-Hyoideus, Sterno-Hyoideus, Sterno-Thyroideus, and Omo-Hyoideus Muscles?
41. Describe the situation of the Ophthalmic Ganglion, and its connexions with the Third, Fifth, and Sympathetic Nerves.
42. What nerve occasionally sends a branch to the Ophthalmic Ganglion?
43. Describe the Ciliary Nerves.
44. Describe the situation of Meckel's Ganglion, with its relation to the 2d division of the 5th Pair.
45. How is Meckel's Ganglion connected with the Portio Dura, Sympathetic, and Fifth Pair of Nerves?
46. Describe the Spheno-Palatine and Palatine Nerves?—What is the nerve of Cotugno?
47. Describe the situation of the Submaxillary Ganglion?—How is it connected to the Facial, Gustatory, and Sympathetic Nerves?—To what parts is it distributed?
48. Where is the Otic Ganglion situated?—To what parts are its branches distributed?—How is it connected with the Facial, Glosso-Pharyngeal, Fifth, and Sympathetic Nerves?
49. How is the Sympathetic Nerve connected with the Ganglia of the Cerebral Nerves;—with the Cerebral and Spinal Nerves?
50. Describe generally the course and relations of the trunk of the Sympathetic Nerve from the base of the Skull, mentioning the number of Ganglia in each region.
51. Describe the Cardiac and Splanchnic Nerves, stating their origin, course, and distribution.
52. Describe generally the Plexuses in the Chest and Abdomen connected with the viscera of those parts.

SPINAL NERVES.

1. How many Cervical, Dorsal, Lumbar, and Sacral Nerves, are given off from the Spinal Cord?
2. How is the Cervical Plexus formed?—where is it situated?—and with what Cerebral Nerves is it chiefly connected?
3. Enumerate the branches of the Cervical Plexus, dividing them into superficial and deep.
4. How is the Descendens Noni Nervi connected with the Cervical Plexus?
5. Describe the origin, course, and distribution of the Phrenic Nerve.
6. Describe the formation and situation of the Brachial Plexus, with its exact relation to the Subclavian Vessels.
7. Describe the appearance and general characters of the Brachial Plexus before it divides into branches, stating any nerves which are especially connected together.
8. Enumerate the branches of the Brachial Plexus.
9. Describe the course and distribution of the Supra-Scapular Nerve; —How is it related to the vessels at the Supra-Scapular Notch?
10. Describe the Subscapular and Circumflex Nerves.
11. How are the Teres Minor, Latissimus Dorsi, and Teres Major supplied with Nerves?
12. What are the Nerves of Wrisberg?
13. Describe the Cutaneous Nerves of the Arm.
14. Describe the course and distribution of the Radial or Musculo-spinal Nerve, stating especially its relations to the Humerus, Supinator Brevis, and Radial Artery.
15. What Muscles is the Radial Nerve distributed to?
16. Describe the course and distribution of the Median Nerve, with an exact account of its relations to the Brachial Artery, Biceps, and Muscles of the Fore-arm.
17. Describe the course, distribution, and relations of the Ulnar Nerve.
18. How are the Biceps, Coraco-brachialis, Brachialis Anticus, and Triceps supplied with Nerves?
19. How are the Flexor Carpi Ulnaris, and Flexor Digitorum Profundus supplied with Nerves?
20. What Nerves pass over the Annular Ligament of the Wrist?
21. How are the Fingers supplied with Nerves?
22. Where are any communications found between the Radial, Ulnar, and External Cutaneous Nerves?
23. Near what Tendons is the Median Nerve placed immediately above the Wrist?
24. How is the Median Nerve separated from the Ulnar Artery at the Elbow?
25. What Nerves give off the Anterior and Posterior Interosseous Branches?
26. What Nerves supply the Shoulder, Elbow, and Wrist Joints?
27. Describe the Distribution of the Intercostal Nerves, as well as their connexion with the Nerves of the Arm.
28. How is the Lumbar Plexus formed; and where is it situated?

29. Describe the course of the branches of the Lumbar Plexus, exclusive of the Anterior Crural, and Obturator Nerves.
30. What Nerve sends branches through the Femoral and Inguinal Rings?
31. Describe the course and distribution of the Anterior Crural Nerve, naming the Muscle to which it is distributed, and stating its exact relations to the Saphena Vein and Femoral Vessels.
32. Describe the course and distribution of the Obturator Nerve.
33. Describe the formation and situation of the Sacral Plexus.
34. Describe the branches of the Sacral Plexus given off within the Pelvis.
35. Describe the Small Sciatic, Pudic, and Gluteal Nerves.
36. Describe the course and relations of the Sciatic Nerve to its division in the Popliteal Space.
37. What branches are given off from the Sciatic Nerve before its division?
38. State generally the Nerves supplying respectively the Flexors and Extensors of the Lower Extremity.

E A R.

1. Describe the Pinna of the Ear, with its cartilage, eminences, and muscles.
2. State the form, length, and structure of the External Auditory Meatus.
3. Where are the Glandulæ Ceruminosæ situated?
4. Describe the situation, connexion, and structure of the Membrana Tympani.
5. Describe the Tympanum, mentioning at the same time the situation of the following parts:—Opening of Mastoid Cells, Foramen Ovale, Foramen Rotundum, Pyramid, Promontory, Fissura Glaseri, Auditory Meatus, Eustachian Tube, Canals for Stapedius Muscle, Tensor Tympani Muscle, Chorda Tympani Nerve, and Ramus Auricularis Nervi Pneumo gastrici.
6. Describe the Ossicula Auditus, mentioning particularly their connexion with the Foramen Ovale and Membrana Tympani.
7. What part of the Internal Ear forms the Promontory?
8. What branches of the Par Vagus, Portio Dura, and Nervus Trigemini, supply the External Ear and Meatus Auditorius Externus?
9. Describe the Nervus Tympanicus, its course, communications with the Facial, Par Vagus, Sympathetic, and Otic Ganglion.
10. What Nerves supply the Tensor Tympani and Stapedius Muscles, the Membrana Tympani and Eustachian Tube?
11. What branches of the Posterior Auricular and Temporal Arteries supply the External Ear?—What branches of the Posterior Auricular, and Middle Meningeal supply the Internal Ear?
12. Describe the Labyrinth generally, its situation and form.
13. Describe the Cochlea, Semicircular Canals, and Vestibule, so far as the bones are concerned.
14. What are the Lamina Spiralis, Scalæ, and Helicotrema?

15. Describe the Membrane of the Vestibule, Semicircular Canals, and Cochlea.
16. What are the Saccule and Otoconia?
17. How is the Auditory Nerve distributed in the Internal Ear?
18. Describe the communications of the Portio Dura and Portio Mollis with each other, and of the Portio Dura with the Nervus Petrosus Superficialis Major.
19. Describe the course of the Portio Dura to the Stylo-mastoid Foramen.

E Y E.

1. Name the parts forming the Lids, beginning from within outwards—Describe the Muscles of the Eyelids, the Meibomian Glands, and the Cilia.
2. What openings are seen on the edges of the Lids?—Describe the Lachrymal Puncta and Duct.
3. Describe the situation and relations of the Lachrymal Gland with its Ducts.
4. Name the Nerves, Arteries, and Veins distributed to the Lids—Describe the connexion of the Vessels of the Conjunctiva and Lids.
5. Describe the Tarsal Cartilages and their connexions.
6. Trace the Conjunctiva from the edges of the Lids, naming the parts which it covers, and its degree of adhesion to the various subjacent parts.
7. State the proportions of the Globe of the Eye formed by the Cornea and Sclerotic respectively; their mode and means of union.
8. How is the Cornea supplied with Blood?—Describe the structure of the Cornea.
9. Describe the form and relations of the Sclerotic Coat, the perforations in it, and the Vessels supplying it.
10. How are the Choroid and Sclerotic Coat connected to each other?
11. Describe the Choroid, Ciliary Ligament, Ciliary Processes, and Iris. State also the structure of the several parts, with their relations to and connexion with each other.
12. How are the Arteries, Veins, and Nerves of the Interior of the Eye distributed?
13. What parts form the boundaries of the Anterior and Posterior chambers?
14. Describe the Retina, its appearance and situation, with its connexion to the surrounding parts.
15. Describe the form, situation, and connexions of the Lens, also of the Vitreous Humour and Hyaloid Membrane.
16. Name the situation and appearance of the following parts, and give the generally-received description of each:—Canal of Petit, Zonule of Zinn, Limbus Luteus, Foramen Centrale, Membrana Jacobi, Tunica Ruysehiana, and Membrana Descemetii.
17. Suppose the Eye-ball has been cut across vertically, from before backwards, what parts would be divided?—Name them, beginning from the Conjunctiva Corneæ.
18. Name the parts of the Globe of the Eye divided in a transverse section from above downwards, the cut being made midway between the front and back of the Eye-ball.

N O S E .

1. Describe the *Pyramidalis*, *Compressor*, and *Levator Nasi* Muscles.—Describe, in addition, any sets of Fibres to which the terms *Levator* and *Depressor Alæ Nasi* are applied.
 2. Describe the *Nasal Cartilages*, their number, relative size, and relations, especially in the *Mesial Line*.
 3. Describe the cavity of the *Nose*, the *Meatuses*, with the openings leading into the *Nose*.
 4. What *Arteries* and *Nerves* supply the outside, and what the inside of the *Nose*?
 5. What *Nerves* supply the *Skin* and *Muscles* of the *Nose*?—How are the branches of the *Olfactory Nerve* and *Spheno-Palatine Ganglion* distributed in the *Nose*?
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LARYNX, TRACHÆA, BRONCHI, AND LUNGS.

1. Describe the *Thyroid*, *Cricoid*, and *Arytænoid Cartilages*, their relations to each other, their *Articulations*, and the *Synovial Membranes* connected with them.
2. Describe the *Epiglottis*, with its relations to the *Tongue* and *Larynx*.—How is it fixed?
3. Name the muscles of the *Larynx*, their origin and relations to each other.
4. Describe the various mucous folds and glands of the *Larynx*.—Where are the *Upper* and *Lower Chordæ Vocales*, and by what structures are they formed?
5. Describe the modes in which the several muscles of the *Larynx* act upon the *Chordæ Vocales* and *Glottis*.
6. What are the chief differences in the *Larynx* of the *Child*, and *Male* and *Female Adult*?
7. What points are the *Chordæ Vocales*, *Ventricles* of the *Larynx*, and *Cricoid Cartilage* opposite?
8. Is there any particular muscle connected with the *Epiglottis*?—If there is, describe it.
9. Describe the structure of the *Trachæa* and *Bronchi*.
10. Where does the *Trachæa* divide, and what parts are connected with its division?
11. Describe generally the situation of the *Lungs*, their connexions, their relative size, and the level to which they reach above and below in inspiration and expiration.
12. Describe the structure of a *Pulmonary Lobule*.
13. Describe the *Mediastina*, their boundaries, situation, size, and contents.
14. Describe the *Pleuræ*, their reflexions and general relations to the walls of the *Chest*, *Lungs*, and *Heart*.
15. What are the boundaries of the *Chest*, especially above and below?

CAVITY OF THE MOUTH, AND INTESTINAL CANAL.

1. Describe the parts found in the Cavity of the Mouth, and the relation of the different parts to each other.
2. What appearances do the Glands under the Mucous Membrane of the Mouth present, and where are they situated?
3. What are the principal Salivary Glands?
4. Describe the situation of the Submaxillary and Sublingual Glands, as well as the manner in which their ducts open into the mouth.
5. Describe the relations of the various parts on the Hyoglossus Muscle to the Duct of the Submaxillary Gland.
6. Describe the relations of the Parotid Gland, and of its Ducts.
7. Describe the exact relations of the Parotid Gland to the Portio Dura, External Jugular Vein, and Internal Carotid Artery.
8. Describe the relations of the Tonsils to the Pillars of the Fauces, and to the Great Vessels situated near them.
9. How low down does the Pharynx extend, and what are its relations in front?
10. Describe the course and relations of the Œsophagus.
11. Describe the external characters of an Appendix Epiploica, as well as the distinctive characters of a portion of the Great Omentum, and of the Lesser Omentum.
12. Describe the relations of the Stomach and Duodenum, especially the relations of the latter to the Peritoneum.
13. Describe the form of the Stomach, the structure of its two openings, and the direction of its muscular fibres.
14. What Ducts open into the Duodenum?
15. Of what tissues are the Small Intestines composed? State the different appearance of the upper and lower parts, as well as their situation.
16. What glands are found in the Duodenum, and what in the Jejunum and Ileum? Describe their form and situation.
17. Describe the Ileo-Cæcal Valve, the Appendix Vermiformis, and Caput Coli.
18. Describe the course of the Large Intestine, mentioning the particular names of its different parts and arrangement of its muscular fibres.
19. Describe the course of the Peritoneum from the under surface of the Diaphragm over the Viscera, up behind the Abdominal Muscles to the Diaphragm.
20. What Viscera are behind the Peritoneum?—What Viscera are completely, and what only partially, covered by Peritoneum?
21. Where is the Liver situated?—Describe its external form.
22. Describe the Gall Bladder, and Cystic and Biliary Ducts.
23. What parts enter the Transverse and Longitudinal Fissures of the Liver?—Describe their relations to each other.
24. Describe the distribution of the vessels through the Liver.
25. Describe the situation, form, and visible characters of the Spleen.
26. Where is the Pancreas situated?—Describe especially its relations to the Duodenum, Superior Mesenteric, and Splenic Arteries.

27. Describe the situation of the Kidneys and Ureters.
 28. What appearance does the Kidney present when cut through?
 29. What are the Mammillary Eminences, Tubuli Uriniferi, and Corpora Malpighiana?
 30. Where do the two Ureters enter the Bladder?
 31. What are the relations of the Bladder to the surrounding parts?
 32. Describe the muscular fibres of the Bladder.
 33. Describe the form and situation of the Prostate Gland, Vesiculæ Seminales, and Cowper's Glands, mentioning the point at which their ducts open into the Urethra.
 34. Describe the length and characters of the Urethra.
 35. Enumerate the parts forming the Spermatic Cord.
 36. What is the Tunica Vaginalis, and what are its relations to the Testis and Epididymis?
 37. What is the Tunica Albuginea?
 38. Describe the structure of the Testicle and Epididymis.
 39. Describe the Labia, Vagina, and Urethra of the Female.
 40. Describe the form and relations of the Uterus.
 41. What parts are contained in the Broad Ligaments?
 42. Describe the course and relations of the Fallopian Tubes and Round Ligaments.
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PARTS OF HERNIA.

1. Describe the connexions of the superficial Fascia of the Abdomen with the superficial Fascia of the Thigh and Crural Arch.—Into how many layers is it readily divisible?—What Arteries and Veins ramify in it?
2. Describe the origin, course, and insertion of the External Oblique Muscle?—What Muscles does it indigitate with?
3. Describe particularly the form, position, and relations of the external Inguinal Ring, and name the parts passing through it in the male and female.
4. What are the form and direction of the Intercolumnar Fibres?—How is Gimbernat's Ligament connected with the columns of the external Inguinal Ring?
5. Describe the Linea Alba, Lineæ Semilunares, Lineæ Transversæ, and Umbilicus.
6. What is the Crural Arch?—What are the relations of the Fascia Iliaca, F. Transversalis, F. Superficialis, F. Lata, and Sheath of Femoral Vessels to it?
7. What is the Triangular Fascia, and what are its insertions?—State its relations to the Spermatic Cord and Pyramidalis Muscle?
8. Describe the origin, course, and insertion of the Internal Oblique, of the Transversalis, of the Rectus, and of the Pyramidalis.
9. Describe the conjoined Tendon of the Internal Oblique and Transversalis.—What are the relations of it to the Cord, External Inguinal Ring, and Fascia Transversalis?
10. What are the relations of the Internal Oblique and Transversalis Muscles to the Internal Ring and to the Cord in the Canal?

11. What Nerves pierce the Transversalis and Internal Oblique Muscles, and ramify between the External and Internal Oblique?
 12. What is the appearance of the Fascia Transversalis after removal of the Transversalis Muscle?—What are the connexions and course of it on the internal surface of the Abdominal Walls?
 13. Describe the origin and insertion of the Cremaster Muscle.
 14. Describe the Walls of the Inguinal Canal, its length and direction?—Describe the relations of the Spermatic Cord to the various parts of the Canal.
 15. What is the Superficial Fascia of the Thigh?
 16. How are the Superficial Fasciæ of the Thigh and Abdomen separated from each other?—What are the differences in thickness and form between the superficial Fasciæ of the Thigh, Leg, and Foot?
 17. What Arteries, Veins, and Nerves, present themselves in the dissection of the Superficial Fasciæ of the lower extremity?—What Absorbent Glands are seen?
 18. What are these Nerves and Vessels branches of?
 19. What is the appearance of the Fascia Lata as compared with the superficial Fascia?—What is the general course and form of it between the Ilium and Upper Extremity of Tibia?—How is the Fascia Lata connected with the Gluteus Maximus, Gluteus Medius, Tensor Vaginæ Femoris, Sartorius, and Gracilis Muscles; with the Sacrum, Ilium, and Linea Aspera of the Femur; with the Great Sacro-sciatic Ligament and Sheath of the Femoral Vessels; with the Crural Arch, Gimbernat's Ligament, the Fascia Iliaca, and the Psoas-iliacus muscle?
 20. What is the Saphenous Opening?—Describe its form, size, and situation; relation to the Saphenous Vein, Femoral Glands, and Vessels.
 21. What is the Fascia Cribriformis?—What Vessels perforate it?—What are the relations of it to the Fascia Lata, Superficial Fascia, and Sheath of the Femoral Vessels?
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